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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,823	07/24/2006	Peter Kinast	19497-002US1	8435
26191 7590 04/12/2011 FISH & RICHARDSON P.C. (TC) PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER CARPENTER, WILLIAM R	
			ART UNIT	PAPER NUMBER
			3767	
			NOTIFICATION DATE	DELIVERY MODE
			04/12/2011	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

# Office Action Summary

## Application No.

10/542,823

## Applicant(s)

KINAST ET AL.

## Examiner

WILLIAM CARPENTER

## Art Unit

3767

**Period for Reply**  
-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 56-60 and 62-106 is/are pending in the application.
- 4a) Of the above claim(s) 88-106 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 56-60 and 62-87 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 02/18/2011
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 February 2011 has been entered.

***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the claims make reference to a "non-hypodermic needle". However, the specification lacks the basic support for the use of the phraseology and a "non-hypodermic" needle is never referenced.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 56, 76, and their dependents are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claims 56 and 76, Applicant recites limitation directed towards the needle being "non-hypodermic". However, this limitation renders the claims indefinite as it is not clear, based on the detailed disclosure as originally filed, what feature(s) are salient to a "non-hypodermic" needle. While the disclosure does recite that "the needle is not intended to penetrate directly in skin and/or tissue" it is unclear what feature(s) make the claimed needle incapable of being used as a hypodermic needle. Pain associated with the needle is not a sufficient to call a needle "non-hypodermic" since such a needle is still capable of hypodermic use. Examiner submits that in the instant case the phrase "non-hypodermic" is a mere recitation of intended use drawn towards the intended function of the device. Examiner submits that a hypodermic needle is capable of being used in a non-hypodermic capacity and vice versa as the situation presents, absent any specific feature(s) that render the non-hypodermic needle incapable of penetrating skin/tissue. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 56-58, 60, 62-64, 76, and 78-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson") in view of USPN 2,697,438 ("Hickey").

Regarding Claims 56, 58, 60, 76, 78, and 79, Henderson discloses a needle (10) for repeatedly penetrating a membrane having a pointed end (Fig. 2) provided with a penetrating tip (Fig. 3) and with an opening (13) for letting a liquid in and out in a main direction which is substantially parallel to the longitudinal extension of the needle (Fig. 2). Henderson discloses that the penetrating tip is designed with a point (12) to initially prick a membrane when the membrane is penetrated and that the outer edges present on the pointed end in the area from the point to a position beyond the opening are rounded (Figure 6) so that after the initial penetration the pointed end will push the membrane material away rather than cutting the membrane material (Col. 1, Ln. 50-63; Col. 2, Ln. 22-46). Henderson discloses the penetrating tip to be designed with a circular cross section having a symmetry (Fig. 6 and Fig. 2) at a longitudinal center line of the needle (when viewed from above, i.e. along the center line, as in Fig. 2). However, Henderson fails to disclose that the point is on the longitudinal center line

when observed from all viewing angles, although this is not generally found to be necessary with respect to the independent Claim 56 or 76.

Hickey discloses a needle (1) designed to prevent coring (Title), a task mutually shared by the needle of Henderson. Hickey discloses that shape of the penetrating tip (Fig. 2) of the needle should be altered such that the point (5) of the needle lies directly on the longitudinal center line (A) of the needle (Fig. 2). Hickey discloses that the "location of the penetrating point at the axis of the cannula also reduces the tendency to coring" (Col. 2, Ln. 23-25). Hickey also discloses that such a point causes the penetrated tissue to spread in all directions, minimizing the force required for penetration (Col. 2, Ln. 16-20). More specifically, Hickey discloses that such a needle point "wholly or partially eliminates the disadvantages of conventional needle points of the prior art in which the opening is either completely in alignment with the lumen..." It would have been obvious for one having ordinary skill in the art at the time the invention was made to alter the shape of the penetrating point of the needle of Henderson such that the point lies on the longitudinal axis when observed from all viewing angles, as disclosed by Hickey, thereby only achieving the expected results of providing a needle penetrating tip shape that is art recognized for preventing needle coring and minimizing the required force to cause penetration.

While neither Henderson nor Hickey disclose the distribution of forces about the penetrating tip radiating from the longitudinal center line, it is held that the position of the modified point of Henderson in conjunction with the disclosed circular symmetry of the penetrating tip, that an infinite number of substantially equally sized forces in different

directions radial to the longitudinal center line would be produced, the forces counteracting one another such that the needle will tend not to deviate from the initial penetration direction when the needle penetrates a membrane. It is important to note that it is not possible for the Office to perform experimental testing of both Applicant's claimed invention and those in the prior art in order to definitively ascertain the exact distribution of forces. As such, Examiner must rely upon the claimed structure in order to differentiate whether or not the prior art is capable of satisfying the claimed functional language. As the device of Henderson, as modified by Hickey, discloses the same structure as claimed by Applicant, absent any explicit showing of evidence to the contrary, it is held that the prior art of Henderson and modified by Hickey is capable of satisfying the claimed functional language.

In the instant case neither Henderson nor Hickey explicitly disclose that the needle is "non-hypodermic", with Henderson explicitly disclosing that the needle may be used for "skin" or "other tissue" and Hickey explicitly disclosing the needle to be a "hypodermic needle". However, in the instant case, as discussed above, the phrase "non-hypodermic" is submitted to be representative of only the intended use of the device. Examiner submits that a hypodermic needle is capable of being used in a non-hypodermic capacity, for example piercing a rubber/polymeric membrane as opposed to human skin or tissue.

Regarding Claim 57, Henderson discloses that the inner edge of the opening is rounded (Fig. 6).

Regarding Claims 62, 80, and 81, both Henderson and Hickey discloses the pointed end to have a shape substantially corresponding to part of an imaginary cone, the tip of which coincides with the point (Fig. 3; Henderson) (Fig. 2; Hickey).

Regarding Claims 63 and 82, both Henderson and Hickey discloses that the opening is formed such that a opening thereof is arranged on one and the same half of the cross-section of the needle (Fig. 2 and 3; Henderson) (Fig. 2 and 3; Hickey). It is important to note that the cross-section of the needle may be assumed at any position.

Regarding Claims 64 and 83, Henderson illustrates the pointed end to be provided with a basic shape in accordance with a lancet bevel cut (Fig. 2).

8. Claims 59 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson") and US Patent No. 2,697,438 ("Hickey") as applied to Claim 58 or 76 above, and further in view of and US Patent No. 4,889,529 ("Haendl").

Regarding Claims 59 and 77, Henderson in view of Hickey discloses the invention substantially as claimed except that the cross section is substantially triangular with rounded edges. However, Haendl discloses a needle (30) specifically designed as to be non-coring (Abstract). Haendl discloses that the needle should have a penetrating tip (Fig. 5) having a cross section that is substantially triangular with rounded edges (33). It would have been obvious for one having ordinary skill in the art at the time the invention was made to form the cross section of the penetrating tip of the modified device of Henderson having a substantially triangular cross section with rounded edges, as disclosed by Haendl, thereby only achieving the expected results of



providing a needle having a penetrating tip shape that is explicitly disclosed as preventing coring.

9. Claims 65 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson") and US Patent No. 2,697,438 ("Hickey") as applied to Claims 56 or 58 above, and further in view of and US Patent No. 5,515,871 ("Bittner").

Regarding Claims 65 and 84, Henderson discloses the invention substantially as claimed except that pointed end is provided with a basic shape in accordance with a back bevel cut. However, Bittner discloses various needles (10, 2, and 30) having either a lancet bevel (Fig. 3) or a back bevel (Fig. 2), illustrating the two bevels to be obvious variants of one another. As such, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the tip of the needle of Henderson to comprise a back bevel, as disclosed by Bittner, thereby only achieving the expected results of replacing one needle point end bevel with an art recognized alternative bevel.

10. Claims 66-69, 72, 73, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson"), US Patent No. 2,697,438 ("Hickey"), and US Patent No. 5,515,871 ("Bittner") as applied to Claims 58, 65, or 84 above, and further in view of US Patent No. 4,889,529 ("Haindl").

Regarding Claims 66, 68, 72, 73, and 86, Henderson in view of Hickey and Bittner discloses the invention substantially as claimed except for explicitly disclosing the angle of the back bevel cut. However, Bittner does illustrate the back bevel cut to be

to the order of 45 degrees (Fig. 2B). Haindl illustrates a similar needle (60) which explicitly has a point bevel of 30 degrees (Fig. 8). As such, it would have been obvious for one having ordinary skill in the art at the time the invention was made to form the modified needle of Henderson to include a beveled point of 30 degrees, as disclosed by Haindl, thereby only achieving the expected results of providing a well-known tip bevel angle to obtain a predictable outcome. It has been held that a value within a range anticipates said range.

Regarding Claims 67 and 69, Henderson in view of Bittner and Haindl discloses the invention substantially as claimed except that bevel cut has a tip angle in the interval of 50 to 100 degrees. However, one having ordinary skill in the art would reasonably recognize and appreciate that the tip angle is a result effective variable as established by Bittner and more specifically Haindl. It would have been obvious for one having ordinary skill in the art at the time the invention was made to form the bevel cut of the modified device of Henderson to be within an interval of 50 to 100 degrees and more specifically to approximately 75 degrees, since it has been held that discovering the optimum value of a result effective variable requires only routine and customary skill in the art.

11. Claims 70, 71, 74, 75, 85, and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson"), US Patent No. 2,697,438 ("Hickey"), and US Patent No. 5,515,871 ("Bittner") as applied to Claims 56, 65, 69 or 84 above, and further in view of US Patent No. 6,517,523 ("Kaneko").

Regarding Claims 70, 71, 74, 75, 85 and 87, Henderson in view of Hickey Bittner and Haindl discloses the invention substantially as claimed except for disclosing the second grind angle of the back bevel cut. However, Kaneko discloses a needle (1) having a second grind angle of between at least 115 to 135 degrees (Figure 1C), thereby establishing the second grind angle as a result effective variable. However, Kaneko fails to explicitly disclose that the second grind angle is limited to the interval of 50 to 140 degrees, and more specifically to about 100 degrees. It would have been obvious for one having ordinary skill in the art at the time the invention was made to form the second grind angle of the modified device of Henderson to comprise a second grind angle of approximately 100 degrees, within the range suggested by Bittner, since it has been held that determining the optimum value for a result effective variable requires only routine skill in the art thereby only achieving the expected results of providing a suitable second grind angle for a needle to obtain a predictable outcome.

12. Claims 56-60 and 62-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,064,651 ("Henderson") and US Patent No. 2,697,438 ("Hickey") and optionally in view of US Patent No. 4,889,529 ("Haindl"), US Patent No. 5,515,871 ("Bittner"), and/or US Patent No. 6,517,523 ("Kaneko") as applied above, and further in view of US Patent No. 3,071,135 ("Baldwin").

Regarding Claims 56-60 and 62-87, should Examiner's arguments that the phrase "non-hypodermic needle" is only a mere recitation of intended use not be found to be persuasive the following is presented. Baldwin discloses a needle (10) which is explicitly recited as being "non-coring" (Col. 1, Ln. 9-11). Baldwin discloses that such

non-coring needles may be useful during hypodermic needle penetrations (Col. 1, Ln. 12-27) as well as non-hypodermic applications, such as when a hollow needle is forced through the membrane of a vial or other container (Col. 1, Ln. 28-39). As such, it would have been obvious for one having ordinary skill in the art at the time the invention was made to use the modified non-coring needle of Henderson in non-hypodermic applications, such as penetrating the membrane of medical vials or other containers, as disclosed by Baldwin, in order to ensure that pieces of the membrane are not sheared therefrom potentially being aspirated into the needle or negatively impacting the quality of the membrane seal.

### ***Response to Arguments***

13. Applicant's arguments filed with respect to the claims have been fully considered but they are not persuasive or are moot in view of the new ground(s) of rejection.

Applicant argues that "there is nothing in the Henderson reference of the Hickey reference to prompt an ordinary skilled person to combine the rounded edges of the needle disclosed in the Henderson reference with the position of the needle point disclosed in the Hickey reference." However, this is not found to be persuasive. Hickey explicitly discloses that "[t]he location of the penetrating point at the axis of the cannula also reduces the tendency to coring" (Col. 2, Ln. 23-25). Hickey also discloses that such a point causes the penetrated tissue to spread in all directions, minimizing the force required for penetration (Col. 2, Ln. 16-20). More specifically, Hickey discloses that such a needle point "wholly or partially eliminates the disadvantages of conventional needle

points of the prior art in which the opening is either completely in alignment with the lumen..." As such, it would have been obvious for one having ordinary skill in the art at the time the invention was made to form the invention of Henderson with a centralized point of the device of Hickey in an attempt to capture the essence of the non-coring features as well as the disclosed benefits of minimizing puncture pressure.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM CARPENTER whose telephone number is (571)270-3637. The examiner can normally be reached on Monday through Thursday from 7:00AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Simons can be reached on (571) 272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Carpenter/  
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04/07/2011

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